

Abstract

The present invention is a method and apparatus for identifying a mixture of particles using a Fourier transform ion cyclotron resonance mass spectrometer (FT-ICR MS). The particles are first reacted in a charge exchange reaction within the FT-ICR MS chamber using ionic partners that are chosen to discriminate among components of the mixture based on ionization potential. Mass spectra of test runs using different ionic partners may then be compared to identify components based on information gathered about both molecular mass and ionization potential.